



# ARES Meeting Agenda - 5/17/23

- Welcome to Our Guests
- Training Documentation
- ARRL Dues Survey Opportunity
- RF Exposure Regulations and Calculations
- Infrastructure Activities
- Upcoming Events
- ARES Net Reminders



# Welcome to our Guests

- Thanks for joining us tonight
- ARES - Amateur Radio Emergency Service
- For those new to ARES, we do 3 major things:
  - Severe Weather – Storm Spotting
  - Communications Support for Community Events
  - Emergency Communications for Served Agencies
- Major Tools that we utilize:
  - Ham Radios, typically VHF and/or HF gear, including Go-Kits
  - Winlink Express software for over-the-radio email messages
  - Internet Email and text messaging for inter-team communications
- Training – much more to ARES than holding a mic and talking



# Training Documentation

- Stuck at 11 of 29 ARES members who have submitted a training record



# Training Resources

- Training Documentation Form
  - Also on our website – on the “Training” Tab
  - <https://www.peoriacountyares.org/wp-content/uploads/2023/01/Training-Documentation-Fillable-Form.pdf>
- How to get a FEMA Student ID (SID)
  - Go to <https://cdp.dhs.gov/femasid>
- FEMA Training for IS 100, 200, 700, & 800
  - Go to <https://training.fema.gov>
- More details in our 07-20-2022 Meeting slides
  - <https://www.peoriacountyares.org/wp-content/uploads/2022/07/ARES-Meeting-07-20-2022.pdf>



# ARRL Dues Survey

- If you are an ARRL member, take this survey
- Available through May 31st
- You must log in to the ARRL website to access
- About 13 questions
- Should not take long to complete
- Your participation is greatly appreciated
- <https://www.arrl.org/take-dues-survey>



# RF Exposure Regs & Calculation

- Rules took effect on May 3, 2021 require amateur radio operators to perform station evaluations
- Detailed article in May '23 QST Magazine (3 pg)
- ARRL has a calculator you can use, found at:
- <http://www.arrl.org/rf-exposure>
- Suggest everyone run the calculation for all antennas, bands, modes, and max power you operate – keep copies to document – including mobile & field units
- New antenna or radio – time to run the calculation!
- No Printer? – take photos with your phone - print large at local drug store/Walmart, or print at Office Depot



# RF Exposure Calculation

- Recommend including the Effects of Ground Reflection – provides most conservative result
- No person should be able to be within the resulting minimum distance from your antenna (value for an uncontrolled environment)
- One tricky part is the Antenna Gain – some help is provided. Suggest looking to commercially available antennas to get values for homemade antennas.
- A Coax Cable Line Loss Calculator is also provided
- Suggest tracking your transmit vs receive times



# Kenwood TM-V71A + Cushcraft

## Parameters

- Power at Antenna: (Need help with this?)  (watts)
- Mode duty cycle:
- Transmit duty cycle: (time transmitting)  
You transmit for  minutes then receive for  minutes (and repeat).
- Antenna Gain (dBi): (Need help with this?)
- Operating Frequency (MHz):

Include Effects of Ground Reflections

If you would like to receive future announcements of any FCC news related to RF-exposure or the requirements for amateurs to evaluate their stations, you may **optionally** provide an email address.

Email Address: (optional)	<input type="text"/>
Comments: (optional)	<input type="text"/>

Calculate

## Results for a controlled environment:

Maximum Allowed Power Density (mw/cm<sup>2</sup>):

Minimum Safe Distance (feet):

Minimum Safe Distance (meters):

## For an uncontrolled environment:

Maximum Allowed Power Density (mw/cm<sup>2</sup>):

Minimum Safe Distance (feet):

Minimum Safe Distance (meters):

Antenna is on 25 foot mast - OK





# ICOM 718 + End Fed - VARA

## Parameters

- Power at Antenna: (Need help with this?)  (watts)
- Mode duty cycle:
- Transmit duty cycle: (time transmitting)  
You transmit for  minutes then receive for  minutes (and repeat).
- Antenna Gain (dBi): (Need help with this?)
- Operating Frequency (MHz):

Include Effects of Ground Reflections

If you would like to receive future announcements of any FCC news related to RF-exposure or the requirements for amateurs to evaluate their stations, you may **optionally** provide an email address.

Email Address: (optional)	<input type="text"/>
Comments: (optional)	<input type="text"/>

Calculate

## Results for a controlled environment:

Maximum Allowed Power Density (mw/cm<sup>2</sup>):

Minimum Safe Distance (feet):

Minimum Safe Distance (meters):

## For an uncontrolled environment:

Maximum Allowed Power Density (mw/cm<sup>2</sup>):

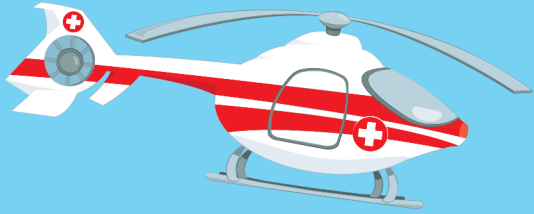
Minimum Safe Distance (feet):

Minimum Safe Distance (meters):

Antenna is at 10 foot - OK



# Upcoming Events



## Central Illinois Emergency Expo

Thursday, July 20 • 4-7 pm • FREE  
at The Shoppes at Grand Prairie



**Family-Friendly  
Community Event!**



# Infrastructure Activities

- VHF Station at the Bunker
  - *Returned the original PC to this station – it has been fixed*
  - *Available for Peer-to-Peer Winlink Packet Practice*
- HF Station at the Bunker
  - Debug the End-Fed NVIS antenna – High SWR
  - Next - obtain ~~computer and~~ soundcard for HF Winlink
- Peoria Red Cross Radio Room
  - Computers have been reinstalled, connected to guest WiFi
  - Want to get the Kenwood TS-2000 to do VHF Winlink
  - Want to get the Yaesu FT-991A to do HF Winlink



# Detailed List

- ~~Reinstall the recently repaired D710 in place of the one at the Bunker~~
- ~~Install the D710 from the Bunker in Go-Box to be a Winlink station in a briefcase. This will become a loaner VHF Voice Winlink Station.~~
- Yaesu FT-950 at Bunker - ~~Configure computer and fix antenna~~
- ~~Bunker VHF station - Configure Windows computer replacement~~
- Research how to get the Kenwood TS-2000 to do Winlink on VHF (and HF if the built-in TNC will work) [Some progress has been made]
- ~~Configure a future laptop (from K9XJT) to do Winlink on VHF for the loaner go-box~~
- Research what is needed to get the Yaesu FT-991A at the Red Cross to do Winlink (on HF and/or VHF)
- Investigate Logging software option for use at Bunker and Red Cross
- Perform RF Exposure Calculations for all stations at Bunker/Red Cross



# ARES Net Reminders

- Illinois State ARES HF Net
  - 1<sup>st</sup> and 3<sup>rd</sup> Sundays of month at 4:30 PM CST
  - 3.905 MHz LSB (alternate 7.230 MHz LSB) & Echolink 824404
  - Informal 60M & 40M check in - (7230 KHz) at 4:10 PM
  - 60M check at 4:20 pm (5403.5 kHz Channel 5, if busy then 1, 2, 3, 4)
- Illinois Digital Net every Wednesday 8:00 PM on Illinois Link
  - WIRES X 21565
  - Brandmeister DMR 31171
  - TGIF DMR 31171, DMR+ Reflector 4636
  - NXDN 3117
  - P25 31171
  - YSF Reflector Illinois Link 83132
  - D-Star XLX 334G, DCS 334G, XRF 334G, and XLX 312G
  - Allstar Link 42810



# END

- [www.peoriacountyares.org](http://www.peoriacountyares.org)
  - [ilares.org](http://ilares.org)
  - [www.arrl.org/ares](http://www.arrl.org/ares)